

MADISON SUTTON

FULLSTACK SOFTWARE ENGINEER

OBJECTIVE

Fullstack software engineer excited to contribute to team-driven projects, embrace new technologies, and expand technical knowledge through practical, real-world challenges. Comfortable writing code in languages such as Go, Javascript/Typescript, C#, Java, Python and C++.

EXPERIENCE

SOFTWARE DEVELOPER (PLACEMENTS)

La Trobe University (Centre for Technology Infusion)
Nov 2025 - Jan 2026

- Designed and implemented a modular backend architecture for IoT platforms, supporting high-throughput ingestion and querying of time-series data.
- Built and validated systems using test-driven development (TDD), improving code quality, test coverage, and long-term system stability.
- Produced technical documentation alongside feature development.
- Performed feasibility analysis and technical evaluation of programming languages, frameworks, databases, and tooling to guide architectural and implementation decisions.
- Applied software design patterns (e.g., Strategy pattern) and core data structures (e.g., FIFO queues) to meet scalability, performance, and business requirements.
- Collaborated closely with my supervisor, communicating system design decisions, development progress, and technical trade-offs clearly and effectively.

SOFTWARE DEVELOPER (CASUAL)

La Trobe University
Nov 2025 - Nov 2025

- Built an interactive game in HTML, CSS and JavaScript
- Used AI tools for advanced debugging and accelerated feature development
- Worked in a team to build a working product that integrates into existing systems

CONTACT

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ABOUT ME

Full-Stack Software Engineer focused on building scalable, user-centric applications. Experienced across frontend and backend development, with an emphasis on clean architecture, performance, and intuitive user experiences. Enjoys collaborative, team-driven development and solving real-world problems.

EDUCATION

LA TROBE UNIVERSITY, 2026

BS of Information Technology,
Software Engineering

SKILLS & TOOLS

Object-Oriented (OO)
Programming
Golang
C++
Python
Java
C# and ASP.NET core
Javascript/Typescript
JS/TS frameworks and libraries such as (Next.js, React Native)
Software Architecture Patterns
Software Design Patterns
Test-Driven Development (TDD)
Data-Structures and Algorithms
Cursor / Visual Studio Code

PROJECTS

CAMPUS AWARE AI AGENT (CAPSTONE)

- Engineered a high-performance Go service for concurrent ingestion of MQTT sensor data into InfluxDB.
- Developed embedded C++ firmware for ESP32 environmental sensor nodes to ensure robust telemetry transmission.
- Built and maintained the IoT data pipeline from embedded devices through MQTT to backend storage.
- Standardised project deployment with Docker Compose, reducing environment configuration complexity for the development team.
- Established GitHub Actions workflows for automated testing and continuous integration.
- Collaborated in a multidisciplinary team to deliver a full-stack IoT solution spanning embedded systems, backend infrastructure, AI integration, and a Next.js web application.

MTIBS (Modular Timeseries IoT Backend Server)

- Designed and built a modular Go backend for IoT time-series ingestion and querying with NanoMQ and TimescaleDB, meeting the client's throughput requirement.
- Built a 500-device MQTT simulator to load-test the pipeline, validating sustained ingestion at the required 11 messages/sec.
- Applied design patterns (Strategy) and FIFO queues to meet scalability, performance, and business requirements.
- Developed with TDD, improving code quality, test coverage, and long-term stability; containerised and deployed to DigitalOcean with Docker Compose and Bash.
- Evaluated languages, frameworks, databases, and tooling to guide architecture, documenting decisions and trade-offs for supervisor review.

HAJAPP

- Designed and shipped a local-first encrypted medication adherence app across two full stacks — an Expo/React Native build (23 screens) rewritten as a native Flutter app (20 routes, layered features/domain/data/core architecture) — backed by ~80 test files / ~300 test cases.
- Implemented end-to-end on-device cryptography: PIN-derived key wrapping, BIP39 mnemonic recovery, biometric unlock, and encrypted export/import — hardening the rewrite to AES-GCM with PBKDF2 (600k iterations) and shipping a v1→v2 migration with zero data loss.
- Built the dosing and analytics domain: multi-medication schedules, dose logging, supply tracking, timezone-aware push reminders with Android boot rescheduling, and an Insights module (adherence %, streaks, heatmaps, blood-level charts, lab scheduling, level↔dose correlation).
- Engineered threat-aware privacy UX for shared and coercive environments (discrete mode, gyroscope panic exit, self-destruct on failed PIN attempts) with on-device ML Kit OCR keeping sensitive images off the network, released via CI/CD with a 60% diff-coverage gate and automated Android/iOS builds.